

**CARBON DIOXIDE-SOLUBLE POLYMERS AND SWELLABLE POLYMERS  
FOR CARBON DIOXIDE APPLICATIONS**

Abstract of the Disclosure

- 5           A method for carrying out a catalysis reaction in carbon dioxide comprising contacting a fluid mixture with a catalyst bound to a polymer, the fluid mixture comprising at least one reactant and carbon dioxide, wherein the reactant interacts with the catalyst to form a reaction product. A composition of matter comprises carbon dioxide and a polymer and a reactant present in
- 10 the carbon dioxide. The polymer has bound thereto a catalyst at a plurality of chains along the length of the polymer, and wherein the reactant interacts with the catalyst to form a reaction product.

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